

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-021968

(43)Date of publication of application : 24.01.1995

(51)Int.Cl.

H01J 37/28
G01B 21/30
G11B 9/00

(21)Application number : 05-191631

(71)Applicant : CANON INC

(22)Date of filing : 06.07.1993

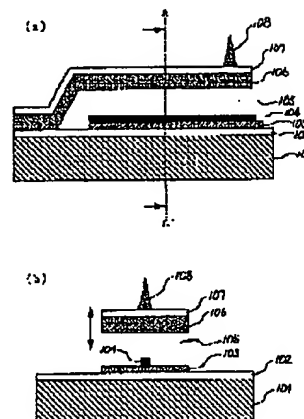
(72)Inventor : WATANABE NOBUO
TAKAMATSU OSAMU
SUZUKI YOSHIO
SHIMADA YASUHIRO
NAKAYAMA MASARU

(54) CANTILEVER TYPE DISPLACEMENT ELEMENT, CANTILEVER TYPE PROBE USING THE DISPLACEMENT ELEMENT, AND SCANNING TYPE PROBE MICROSCOPE AND DATA PROCESSER USING THE PROBE

(57)Abstract:

PURPOSE: To suppress short-circuiting so as to improve the durability, as well as to prevent a sticking phenomenon so as to simplify the manufacturing process and to improve the yield, by providing a projecting position of an insulating material to the surface of a substrate or the surface of a cantilever side, to a cantilever type displacement element.

CONSTITUTION: On the surface of a silicon substrate 101, a silicon nitride membrane 102 is laminated, and after a tungsten membrane is laminated thereover, a fixed electrode 103 is formed by a patterning. Furthermore, a silicone nitride to be an insulator is laminated, and by forming a projecting position 104 by a patterning, short-circuiting between the fixed electrode and an opposite electrode is prevented, as well as a sticking when the cantilever is released is prevented, in the manufacturing process thereafter. After that, a sacrificing layer 109, a multi-crystal silicon membrane 106, and a silicon nitride membrane 107 are laminated in order, and after a heat treatment is applied, the membranes 106 and 107 are made into a cantilever form by a patterning, and then, the sacrificing layer 109 is removed by an etching, and a clearance 105 is formed between the cantilever 106 and the fixed electrode 103.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]